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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/816,807	03/23/2001	John M. White	5400/CMP/RKK	5832

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APPLIED MATERIALS, INC.
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EXAMINER

PERRIN, JOSEPH L

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 06/23/2003 //

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/816,807

Applicant(s)

WHITE ET AL.

Examiner

Joseph Perrin, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-15, 17, 20 and 22-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13, 14, 17 and 20 is/are allowed.
- 6) ☒ Claim(s) 8-12, 15, 22, 25 and 28 is/are rejected.
- 7) ☒ Claim(s) 23, 24, 26, 27, 29 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 05 May 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. In view of applicant's amendment filed 05 May 2003 (Paper No. 9), the status of the application is as follows:

Drawings Objections

The proposed drawing corrections have been approved by the Examiner.

Claims Objections

The objections of claims 13, 14 (dependent on 13), 17 and 20, indicated as containing allowable subject matter, are withdrawn in view of Applicant's amendment rewriting claims 13, 17 and 20 into independent form. The claims now appear to be allowable.

35 U.S.C. §102(b) Rejections over Bran ('278) and Manos

The rejection of claims 8-10 are maintained for reasons set forth below.

35 U.S.C. §103(a) Rejections over Manos, Walsh, Bran ('278) and/or Bran ('432)

The rejection of claims 11, 12 and 15 are maintained for reasons set forth below.

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2. Applicant's arguments filed 05 May 2003 have been fully considered but they are not persuasive.

3. Re claim 8 and in response to applicant's argument that "none of the prior art of record appears to disclose or suggest providing a barrier that both extends above at least the width of the fragile component and also is positioned so as to protect a central region of the length of the fragile component." This is not persuasive because Bran '278 (for instance in Figures 1 and 7) and Manos (for instance in Figures 5-7) each disclose a barrier extending across and above the width of the central region of the fragile component, as claimed by applicant.

4. Similarly, applicant argues that "neither reference discloses a barrier as recited in claim 8 that also comprises a substrate support as required by claim 9." This is not persuasive because the barriers of both Bran '278 and Manos, as cited above, clearly disclose means to support substrates. Re claims 11 and 25, Manos further discloses substrate supports as extended rollers as claimed in claim 11 and 25 (see above-cited Figures).

5. Re claims 11, 12, and 15, applicant argues that these claims are distinguishable over the prior art since claim 8 (from which they depend) is distinguishable over the prior art. This is not persuasive because the rejection of claim 8 is maintained for at least the reasons set forth above.

6. Similarly re claims 11 and 25, applicant argues that the prior art of record does not disclose a "bottom roller positioned so as to contact a bottom region of a substrate

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supported thereby." This is not persuasive because Manos and Walsh each disclose, for instance in the Figures, extended bottom rollers as claimed.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Bran '278.

Re claims 8-10, recitation of Bran '278 is repeated here from the previous Office action, Paper No. 8. Specifically in Bran '278, there is disclosed an apparatus with an open-top tank 10, a fragile component 84 in the tank, a barrier 78 extending the width and length of the fragile component, the barrier comprising a substrate support (not numbered) and the fragile component comprising a quartz plate (see entire reference, for instance, Figures 1 & 7, and col. 3, lines 25-30).

Claims 8-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Manos.

Re claims 8-9, recitation of Manos is repeated here from the previous Office action, Paper No. 8. Specifically in Manos, there is disclosed an apparatus with an open-top tank 15, a fragile component 23 in the tank, a barrier 1 with substrate support

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11, the barrier extending the width and length of the fragile component (see entire reference, for instance, Figures 5-7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 11, 15, 22, 25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Manos in view of Walsh.

Recitation of Manos in view of Walsh is repeated here from the previous Office action, Paper No. 8. Specifically, Manos discloses the claimed invention and that the substrate supports are rotated to spin the substrates by rotation the barrier/carrier (see, for instance, the abstract). Manos also discloses the apparatus having three extended rotatable substrate supports, each functioning as a bottom support, and transducer 23 (see, for instance, Figure 1). However, Manos does not expressly disclose the supports as "rollers".

Walsh teaches that it is known to provide rotary means 77 to the substrate supports of a barrier 75 to impart rotary movement onto the substrates via "drive rollers" (see, for instance, the abstract and Figure 2). Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to substitute the rotary drive means of rotating the barrier with substrate supports, disclosed by Manos, with the rotary drive means of directly rotating the substrate supports, as disclosed by Walsh, since substituting a known mechanism for performing the same function involves only routine skill in the art (see *Ryco, Inc. v. Ag-Bag Corp.*, 857 F.2d 1418, 8 USPQ2d 1323 (Fed. Cir. 1988)).

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Manos and Walsh as applied to claims 11, 15, 22, 25 and 28 above, and further in view of either Bran '278 or Bran '432.

Recitation of Manos and Walsh are repeated here from above. Also as noted above, Bran '278 (and similarly, Bran '432) teaches that it is known to utilize quartz as the fragile material because quartz "efficiently transmits megasonic energy and does not react with the cleaning solutions". Therefore, the position is taken that a person of ordinary skill in the art at the time the invention was made would have been motivated to modify the combination of Manos and Walsh with a quartz fragile component for the purpose of providing efficient, inert mechanism for applying megasonic energy to substrates.

Allowable Subject Matter

10. Claims 13, 14, 17 and 20 are allowed.
11. Claims 23, 24, 26, 27, 29 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
12. The following is a statement of reasons for the indication of allowable subject matter:
13. The prior art of record fails to teach each and every limitation of the instant invention. Specifically, the prior art of record fails to teach the apparatus, as claimed, having an extended roller with hollow extension, a transparent barrier, or a barrier with a thickness that is a multiple of one half of the wavelength of the sonic energy transmitted by the fragile component as sonic energy travels through the barrier material, which are disclosed as essential elements of claimed invention.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

15. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Perrin, Ph.D. whose telephone number is (703)305-0626. The examiner can normally be reached on M-F 7:30-5:00, except alternate Fridays.

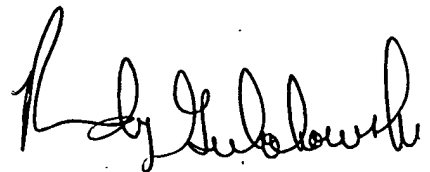
17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (703)308-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9310 for regular communications and (703)872-9311 for After Final communications.

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18. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

Joseph Perrin, Ph.D.
Examiner
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jl
June 16, 2003

A handwritten signature in black ink, appearing to read "Randy Gulakowski", is written over a faint, larger signature.

RANDY GULAKOWSKI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700